

# MARKET POWER, INCIDENCE OF GOVERNMENT POLICIES, AND POVERTY: THE CASE OF FISHERMEN IN NORTHWESTERN MALAYSIA

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## I. INTRODUCTION

Malaysia is a country federated at two levels. At the higher, the federation consists of peninsular or West Malaysia and Sabah and Sarawak or East Malaysia. At the lower, West Malaysia itself consists of several states (with hereditary sultans as their heads) and two federal provinces, Melaka and Pulau Pinang (Pinang Island), with governors appointed by the federal government. Since independence (1957 for the western federation and 1963 for the eastern), Malaysia has been developing speedily. In the process West Malaysia created a host of authorities, boards, commissions, research organizations, and even semi-private companies to speed up modernization of various industries, to increase production for domestic consumption and/or for export, to regulate marketing, and to set prices.

This paper focuses on the problems of the West Malaysian fishing industry in general, concentrating on the fishing industry in the so-called northern region.<sup>1</sup> To some degree, our analysis is also relevant for the problems of the whole West Malaysian fishing industry.

Our purpose is to evaluate the process of modernization of the industry, examining 1) how it was helped or hampered by these agencies, and 2) how the gains from modernization were shared by owners of factors employed in the fishing industry. We also submit at the end of this paper our own suggestions for a reform. We base our paper to a degree on published data and largely on interviews with government officials in various boards, bureaus, commissions, etc., in the federal capital and in second level states and provinces of the northern region. Officials of MAJUIKAN were our primary source.

The main agency to regulate and aid fishing is the (Federal) Ministry of Agriculture and Fisheries. Its main sub-agency dealing with the fishing industry is Lembaga Kemajuan Ikan Malaysia (MAJUIKAN), Fisheries

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Development Authority. The industry is also regulated by various second level states and provinces, and the overabundance of regulators imposes additional burdens on the industry.<sup>2</sup>

## II. FISHING IN THE NORTHERN REGION

One peculiar facet of the West Malaysian fishing industry is its multiracial composition. Unofficial data as to the racial composition of fishermen in the northern region in 1973 are found in table I.

TABLE I  
RACIAL COMPOSITION OF FISHERMEN, NORTHERN REGION

State	Malays	Chinese	Other	Total
Perlis	654	210	406	1,270
Kedah	4,475	1,621	27	6,123
Pinang	2,696	3,292	55	6,043
Perak*	2,441	16,800	194	19,435

\*The figures for Perak show numbers of fishermen for the whole state. Presumably very few of these were living in the northern inland region.

The total of fishermen in West Malaysia was 75,486.

The races of Malaysia differ much in the size and distribution of their incomes. On the average, the Chinese have the highest income, but their income distribution is very unequal. Both Chinese and Malay fishermen are very poor.

The Malays are best organized politically. They have been able to translate their political power into legislation beneficial to them (for example, Bumiputra—native sons companies—get preferred treatment). There are no Bumiputra companies engaged in fishing, however. The Malay fishermen are numerically too unimportant to wield much political influence.

As the fishermen in West Malaysia are all very poor,<sup>3</sup> a purposeful state policy on behalf of this industry, were the gains from it widely shared, should contribute to racial harmony (one of the more important publicly acknowledged objectives of the Malaysian State). At present the Malaysian Chinese are, on the average, the richer, and because of this they look with suspicion at any redistributive policies of the government that in their view benefit the poorer, i.e., mainly the Malays and other Bumiputra. A redistribution policy on behalf of poor fishermen should be acceptable to each of the racial groups.

The fishing industry is of great importance to the Malaysian economy. Malaysians, though rich in resources, for various reasons do not nourish themselves properly.<sup>4</sup> They consume only about two thousand calories per person per day, and starches predominate in the diet. Their protein intake is

especially inadequate, and the lowest levels are observed for rural Malays who for religious reasons cannot eat pork, comparatively cheaper than other meats. Thus in 1968 the non-pork-eating section of the population consumed 15.2 pounds of meat per capita per annum; the pork-eating population (mainly of Chinese descent) consumed 38.9 pounds. These figures may be contrasted with consumption of meats in the developed nations of 100-200 pounds per capita per annum.

Clearly, consumption of proteins to become adequate would have to increase at a much higher rate than the population. As fish are considered edible by all Malaysians, expansion of the fishing industry should have a high priority. At present fish catches amount to 330,000 tons; other meats and eggs supply only 147,335 tons.<sup>5</sup> A small quantity of fish is exported; the value of this export is large enough to pay for fish imported by Malaysia, making West Malaysia self-sufficient in production of fish proteins.

In the past, both fresh- and salt-water fishing were done commercially in Malaysia. In the northern region, the major areas of fresh-water fishing were the mud flats of the Muda River valley. There (after the monsoon season) rice was grown, but off-season fishing was an important activity.<sup>6</sup> As Malaysia was a net importer of rice, the federal government decided to irrigate the Muda valley, so that two crops of rice a year could be harvested there. At a substantial cost to the treasury, the irrigation scheme was successfully executed, and Malaysia became nearly self-sufficient in rice production;<sup>7</sup> in the process, however, production of fresh-water fish in the area was destroyed.

Fortunately, expansion of fishing in the straits of Melaka turned out to be possible, and the increase in salt-water fishing more than offset the loss of catch in the Muda River flats. Upwelling currents in the Melaka straits bring deep-sea nutrients into shallower waters, which turn into breeding grounds and teem with valuable fish.

Because of a moderate incline of the sea bed, the straits fishing grounds can be divided into four categories. 1) There is a shallow offshore strip where the more valuable fish breed. Any commercial fishing there would be destructive to this national Malaysian resource. The Malaysian states and provinces, therefore, forbid commercial fishing in a strip extending seven miles from the shore. 2) Further away, the straits for miles are shallow enough to permit commercial bottom fishing. This is a highly profitable operation, but these grounds are limited. An element of monopoly has to be introduced by the states (provinces) to protect them from overfishing. 3) As the sea gradually deepens, one has to change from bottom to sea level fishing, but farther from the shore cutters and trawlers used for fishing must be larger than near-shore vessels to be seaworthy. In other words, such fishing must become more capital-intensive. 4) Finally, Malaysians could undertake ocean fishing. This requires large capital investment in ocean-going fishing ships, and so

far Malaysia has not created such fleets. As Malaysians are, historically, experienced seafarers, this development remains a potentiality not to be overlooked when expansion of fishing becomes a national necessity.

Fishing offshore of West Malaysia is further complicated by the sea laws that limit national control of the seas. Until such laws are changed, much of Melaka straits is also open to fishing by other nations, especially by the Japanese, the Burmese, and the Thai. Indonesian fishermen are not a problem since they still have much of their own offshore waters to develop.

After the Malaysians switched to more salt-water fishing, it soon became clear that the profitable bottom fishing in the straits of Melaka is a limited resource, vulnerable to over-fishing. There are, however, problems involved in protecting the straits. Legal regulations cannot be made flexible enough. Specifically, the fish breeding grounds do not coincide with the seven-mile offshore limit on fishing and often extend further than that. Valuable young fish often go into the zone where bottom fishing is permitted, and get caught there, as may be seen from the high percentage of trash fish often caught by bottom fishing methods.<sup>8</sup>

To avoid the constraint, Malaysia may further develop its fishing on the eastern shores of West (peninsular) Malaysia and on the northern shores of East (Timur) Malaysia, i.e., off the island of Borneo. This, of course, would benefit fishermen living near such coasts but will not help the fishing industry in the northern region. The distances make such fishing unprofitable for the northern region fishing fleets.

The only reasonable way to protect the fishing in the straits is by regulation. We have already mentioned the prohibition of commercial fishing in the seven-mile offshore strip. More important has been restriction of the numbers of fishing licenses issued by the states. Given the small size of boats in the straits, license restriction effectively restricts the size of the catch, protecting the straits from depletion. Unfortunately, this environmental measure is equivalent to a government monopoly of fishing rights.

The question was, who was to receive the monopoly rents from fishing in the straits? Federal or state governments could have operated the industry as a monopoly but decided not to. Still, they could have tried to reap the monopoly rent by auctioning fishing licenses. Whether they would have been successful we shall never know, because auctions of licenses were not tried.<sup>9</sup>

Instead, governments charged moderate fees for operating fishing equipment and fishing boats, foregoing collection of monopoly rents from fishing.<sup>10</sup> A redistributational decision had to be made. Licenses could have been issued to fishermen organizations (co-ops or partnerships), an action which would have alleviated the abject poverty of this group, but such a policy to be successful would require provision of capital as well to the fishermen. To avoid this cost the states issued licenses not to fishermen but to financiers,

who were able to provide the boats and finance the operations themselves. As straits fishing has been very profitable, the financiers were most willing to buy licenses and organize the fishing. The uneducated and miserably poor fishermen had no alternative but to join as hired crews.

### III. THE FISHING INDUSTRY IN PINANG AND LANGKAWI ISLANDS

Better to understand problems of the fishing industry in the northern region, we paid special attention to sea bottom fishing in the straits of Melaka by two groups of fishermen: those of Pinang and those of the Langkawi Islands.

In the Pinang area, bottom fishing (seven miles offshore) is done by trawlers of ten to twenty ton capacity with crews of four fishermen (including the captain). Up to 280 fishing licenses are granted to financiers who supply the boat, hire the crew, and advance operating costs (fuel, ice, etc.). The trawlers use Batu Maung on Pinang Island as their port, but neither do the fishermen live there nor do the buyers of fish have their offices there. The latter live and operate in Pinang City (some financiers, themselves, are fish buyers). After each catch, trawlers return to Batu Maung, the fish are classified as trash fish (from 40-50% of the catch) or human-consumption fish and divided by type into separate baskets. The crew does not have any means to weigh the fish nor any idea of prevailing prices paid that day by the fish buyers. The trash fish are taken by a trustee of a fish cooperative to which the financiers belong.<sup>11</sup> The valuable fish are taken by the financier to Pinang and the next day the crew is told the value of its share in the catch. From the total value obtained by the financier (according to his account), the first M\$200 is subtracted to cover his expenses and the remainder divided in two, half for the financier, half for the crew. The average income of an able fisherman (one share) comes to about M\$100 per month, but wages may vary around the average. The captain and the first mate usually get one and a half shares; in addition, the captain may also get a commission if the catch is good. The low income of fishermen is partly due to a large content of trash fish in the catch. Insofar as trash fish includes young valuable fish that prefer coastal waters, one suspects that many crews may be breaking the law by fishing too close to the shore for prawns. Such practices damage the ecology of the straits, depleting them of future mature human-consumption fish.

Clearly, the low incomes of Pinang fishermen are a result of their weak market power.<sup>12</sup> They have no boats of their own, hence can only be hired hands. The law, by selling licenses to financiers, favors the latter. The crew has no control over the sale of its catch, does not know the weight, does not know what prices are in fact obtained, or whether or not the fish are sold to

the highest bidders. The marketing of trash fish is of little value to the crew, who get only 2 cents per kati (one kati weighs 1.33 pounds) for it.

Some crews, infuriated by their low incomes, strike back. They are tempted to sell part of their catch for cash on the seas to foreign ships, pocket the proceeds, and bring back only the remainder. If the financier suspects the crew, he can sack them, but with little confidence that his next crew will be any better. Lately, some of the financiers have put a trusted man (often a family member) among the crew. In any case, the risk involves some costs and these increase the need for a larger margin to the financier. Although it is the system under which the financiers operate that causes the need for controls, it is the consumer who pays, in higher prices of fish.

Prices of fish delivered to the port (hereafter called "ex boat") are difficult to establish, for there are no published statistics. Averages can be obtained from MAJUIKAN officials but only for their operations at Langkawi Islands. To get some idea about ex boat prices at Batu Maung we visited the port and interviewed several fishermen leaving boats for home. They claimed that often their catch of valuable fish brings them only ten Malaysian cents per kati on the average. Given the sharing system, this figure translates into twenty-five Malaysian cents ex boat per kati. This, of course, is only the lower limit of the ex boat price range. Against this one may consider the whole spread of retail fish prices per kati in Kuala Lumpur, which runs from 45 cents for small Chencharu, to M\$2.60 for Bawal Puteh, to M\$3.48 for medium prawn (all these quotations are for the first quarter of 1973). Clearly, the average margin over ex boat prices is not as large as the figures compared here might indicate, but it is substantial.

At Langkawi MAJUIKAN (Alor Star Branch) started a very interesting experiment. It bought twelve trawlers (thirty-ton capacity), hired crews of six for each trawler, and now runs them somewhat along the lines of the private operations at Pinang. There are, however, differences, and the most important is that MAJUIKAN has a subsidiary company in Pinang that buys fish and pays better prices than private buyers. Specifically, we found that in a particular (considered representative) catch the ex boat average price per kati was 91 cents, almost four times the above-quoted lowest price of 25 cents.

The captain of the crew also gets a small commission from MAJUIKAN's share if the catch is good. Finally, 10% of fishermen's income (shares) is banked at interest and is available only in case of emergency or at retirement. In the MAJUIKAN operation the amount of trash fish is smaller, representing only 10-15% of the catch. Despite this, the average income of an able fisherman is only slightly higher (M\$120 per month) at Langkawi than at Pinang (M\$100 per month). The reason is that some boats have small catches or high repair and maintenance costs. One must also suspect inefficiency or cheating (selling on the high seas).<sup>13</sup>

## IV. FISH MARKETS

The fish markets in western Malaysia are oligopolistic, and we suspect a high level of collusive behavior among the financiers organizing the industry.<sup>14</sup> The monopolistic powers of the latter are strengthened by government limitations on issuance of licenses for bottom fishing and transfer of the resulting monopoly profits to financiers already engaged in the industry. To compound the inequitable distribution of the value added in the fishing industry, markets in which fish are sold are far from competitive. This is not a peculiar feature of fish marketing alone. Many other industries in Malaysia have a similar problem.

In general, specialized wholesalers create their own networks of buying agents and of retailers. Members of these networks are tied to the respective wholesalers by financial arrangements (credit). Insofar as most of the wholesalers are of Chinese descent, the network has its ties further strengthened by consanguinity (members are either relatives or at least members of the same Chinese clan). Above all, network ties are strengthened by collusive behavior among the wholesalers themselves. Any retailer who might refuse to accept a delivery because his wholesaler overcharges him would be cut off from further supplies by him, and no other wholesaler will deal with the "rebel."

Further proof of oligopolistic structure and collusive behavior of wholesale fish markets is based on price behavior. Official data for the first quarter of 1973 quote fish prices for several regional markets.<sup>15</sup> Three will interest us here: Pinang Island, Ipoh, and Kuala Lumpur. Only Pinang Island is in the northern region, but the market at Ipoh in the state of Perak draws perhaps some fish caught in the region. Both markets also export fish to the national capital in Kuala Lumpur, hence our interest in this third market.

The data seem to support the claim that there is no national market in fish in West Malaysia if we define *national market* as one in which regional market prices usually differ only by the cost of transporting a given good from the exporting to the importing region, plus a normal profit. Shipping cost of a pikul (100 kati, or 133 lb.) of fish from Pinang or Ipoh to Kuala Lumpur, with cost of ice added, could not exceed M\$10, and adding a margin for profit and weight loss from evaporation, wholesale prices at Kuala Lumpur should not be more than M\$20 (per pikul of any kind of fish) higher than the price in the exporting region. We find, however, that in the first quarter of 1973 the market price differential was about M\$50-60 and, in the case of prawns, about M\$100 or even more. One must presume that such price differentials are representative of wholesale fish market operations in West Malaysia. If the markets were competitive, some wholesalers could bring the cheaper fish into Kuala Lumpur and force prices down greatly. As that does not happen, one must presume that wholesalers do not need to



fear such imports and (being stocked with high priced fish) keep the old price until the stocks are gone. This is compatible with profit maximization but markets are then monopolistic or collusively oligopolistic. For the Malaysian people this has meant high prices to consumers in Kuala Lumpur, low prices to fishermen in Pinang and Ipoh. Only the wholesalers in Kuala Lumpur are protected from the consequences of their overstocking with fish, for which both the primary producers and final consumers have to pay.

MAJUIKAN is aware of great imperfections in Malaysian fish markets and is in the process of forcing fish auctions. The auction system is not yet operative in the northern region. Whether this measure by itself will bring substantial competition to fish marketing remains to be seen. Probably many additional measures need to be taken concurrently before competition in wholesale markets is enforced.<sup>16</sup>

#### V. EVALUATION

We have shown in the preceding sections that:

- 1) The market for fisherman labor is oligopsonistic. The financiers hire crews as if they all were representing one employer. The hand of financiers is further strengthened by a) existence of collusive practices, perhaps arrived at and enforced by the so-called fishing cooperatives (in fact trade associations of the financiers), and b) existence of governmental monopoly through issuance of a limited number of licenses for sea bottom fishing. As Malaysian governments did not try to extract the resulting monopoly rents for themselves, and issued licenses to previous licensees, profits of the latter must have increased and stabilized at such higher levels.

- 2) The market for fish is also oligopolistic, concentrated in the hands of a few wholesalers who are also able to tie some of the financier boat owners directly to themselves.<sup>17</sup> Because of high levels of collusion in both markets, "monopoly" and "monopsony" models describe these markets fairly well.

- 3) Poorly educated fishermen have no incentive to switch jobs, because unskilled labor in other fields is equally ill-paid. Therefore, the labor supply for fishing remains inelastic.

The concentration of market power in both markets resulted in low wages for Malaysian fishermen, and in general in very unequal distribution of incomes out of value added by the fishing industry.

Although it is difficult to evaluate the effect of concentration and monopolization, in this case our estimate is that the decline in fishermen wages was steep; the latter probably got only half the wage they would have received had the markets been competitive.

Clearly Malaysian fishermen do not get their proper share in gains from economic development. Market imperfections explain this to a degree, but governments by their desire to protect environment contributed also to the



weakening of fishermen's economic position. A monopoly of fishing rights in the straits of Melaka has been created, and the resulting monopoly rents have been inadvertently passed to financiers.

## VI. POLICY PROPOSALS

The fishing industry of West Malaysia—especially in the northern region—is in a precarious position. It is a major producer of protein supply in a nation starved for proteins; but its most profitable form (bottom fishing) cannot be expanded, at least in the straits of Melaka, for environmental reasons. Its “monopolistic-monopsonistic” nature also makes the industry inefficient and produces great income inequality. Thanks to the preponderance of the market intermediaries and financiers, the fishermen themselves are kept abjectly poor, but consumer prices are high. The basic objectives of the government should be to bring more competition to fish marketing and to reorganize the industry in general, so that a more equitable distribution of incomes will result.

Bringing competition to fish marketing in Malaysia will not be easy. Many other industries of Malaysia suffer the same problems. So far, governmental solutions have taken the form of regulation of marketing, mainly through the licensing of agents, both buyers and sellers. Licensing, however, only substitutes private monopoly for public and does not assure operating at purely competitive prices.

MAJUIKAN wants to impose auctioning of fish in public, regulated markets. Such would appear to be a step in the right direction, but one doubts whether this measure alone could restore competition. A more basic restriction of competition is hidden in the tying of retailers and purchasing traders to a single wholesaler. Tying to a wholesaler firm, enforced by collusion with other wholesalers, is mainly responsible for the present structure of fish and other produce trading in Malaysia.

To break the ties between the retail and wholesale trade, positive steps will be needed. Introduction of vigorous trading cooperatives might be one, but so far in Malaysia such cooperatives have atrophied in this function. Development of supermarkets might help. Some state-supported development of refrigerating and freezing units might also bring price stability and less spoiling of fish. Also more competition might result if information about market conditions is more widely disseminated. Perhaps publicly operated scales at ports would help. The fish buyers might be issued licenses only if they open offices at the fishing port (perhaps only three fishing ports are needed in the northern region: at Batu Maung, Kuala Kedah, and Langkawi). They should post their prices each day so that the crews may know them in advance, or at least at the time the financier takes over the catch. Also, the fishing licenses of any Malaysian state should not restrict selling of the fish

exclusively to ports of the state issuing the license. Elimination of this restriction might prevent unneeded costs and make fish buyers more competitive.

The second major objective should be reorganizing the industry itself. The task should be comparatively easy because the lack of market power of fishermen is attributable mainly to human causes. Clandestine collusion among financiers should be made illegal. Specifically, the present fishing cooperatives should be disbanded and replaced by a single fishing cooperative whose membership is open to all crews. The trash fish should be sold by this cooperative at auctions to fish meal operators, and the proceeds after cost credited to crews according to their catch of trash fish. The licenses to fish should be given to crews or their captains, and not to financiers (the boat owners would then hire only fishermen with licenses to fish).

A major step in giving the fishermen market power would be dispersion of ownership of boats. Ideally the smaller boats should belong to the crews (preferably partnerships or small cooperatives) or to individual captains. A start can be made by changing the MAJUIKAN experiment in the Langkawi Islands. At present MAJUIKAN forces the employed crews to save by banking a small part of their earnings. The savings could be increased by adding captains' commissions (the latter perhaps even doubled to give captains an incentive to produce good catches). MAJUIKAN could permit withdrawal of savings for the purpose of buying boats, and could also auction its older boats used at the Langkawi Islands experiment to fishermen (but not to financiers).

If such a policy becomes successful, the government could initiate low interest state loans to the fishing crews so that they may buy boats belonging to financiers in Pinang.<sup>18</sup> The laws supporting "Bumiputra" (native sons) firms could be appropriately extended to fishing.

The reforms proposed here need not be construed as inimical to financiers. Their capital could be reinvested in ocean going fishing ships for which licenses should be issued to financiers as well as to any applying captain, and the Malaysian state could give tax incentives in such cases (as it does now to many other "new" industries).<sup>19</sup>

As for the monopoly rents from issuance of a limited number of licenses to bottom fishing boats, there are two alternatives to the present system of passing them to the financiers. They could be extracted by auctioning licenses, but that would make development of fishermen-owned fleets difficult. Perhaps for the time being such monopoly rents should not be extracted by the states, but passed to crews with licenses. This would speed up the process of developing fishermen owned fleets; and only after a transitional period should the matter be reconsidered.

## NOTES

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1. The northern region, as defined by authorities, consists of states—Perlis, Kedah, north-western part of Perak—and the province of Pulau Pinang (including the Island of Pinang and the former [continental] province of Wellesley). Apparently the Federal government of western Malaysia is worried about the lagging development and the increase in income inequality in this region. The National Action Committee set up the Northern Malaysian Regional Action Committee, giving the Economic Planning Unit (E.P.U.) the task of preparing policy proposals and coordinating the workings of this body.

2. One cause of the "excess" is the federal structure of West Malaysia. The provinces, states, and the federal government all have a role. Licensing belongs to the state or province. These usually require that licensees sell the fish in provincial markets. Thus, if a boat is on high seas and the captain wishes to sell the catch, the boat has to return to its base, even if other ports are closer and offer higher prices for fish. Such a regulation unnecessarily increases costs (diesel fuel burned, time lost) and decreases the revenue (price obtained).

3. For data and need of redistribution, see Donald R. Snodgrass, "The Fiscal System as an Income Redistributor in West Malaysia," *Public Finance* 29, no. 1 (1974): 58. According to Snodgrass, the mean household income per month in West Malaysia in 1970 was M\$267, while the mean income of fishermen's households in 1973 or 1975 would be half of that or less. Income inequality in West Malaysia is high. Snodgrass estimates the Gini coefficient to be .502.

In 1974 the U.S. dollar exchanged for about 2.40 Malaysian dollars, but the purchasing power of the Malaysian dollar was higher, about equal to 75 U.S. cents.

4. See Anuvar bin Mahmud, "Food Problems in Malaysia," *Food Problems in Asia and the Pacific*, Proceedings of a seminar held at East-West Center, Honolulu, Hawaii, May 1970.

5. Ibid. See especially p. 192, table 2.

6. See "The Boom Which Turned into an Avoidable Slump," *Malaysian Business* (February 1975): 8-17.

7. At present Malaysia is almost self-sufficient in rice (thanks to Muda Valley Irrigation Scheme), fish, pork, and poultry. Beef must be imported, as must maize, soy beans, etc. There are some exports of tapioca and tropical fruits, but other fruits have to be imported. For data on Malaysian exports and imports see: Ministry of Agriculture and Fisheries, *Statistical Digest*, 1966-1971, pp. 78, 92, 93, and 94; and Federal Agricultural Marketing Authority, *Quarterly Commodity Statistics* 4, no. 1 (Jan/March 1973).

8. Trash fish consists of inedible fish (for example, starfish), damaged fish, and fish that are too small to be eaten. In the latter category one may find a substantial fraction of young fish, valuable when grown, but the method of bottom fishing does not permit removal of it from the catch and return to the seas alive. Some catches bring as much as 40-50% of trash fish. The closer to shore one fishes by bottom fishing methods, the more low-priced trash fish will be caught. On the other hand, high-priced prawns abound in coastal waters. Coastal police have caught numbers of commercial boats fishing in the forbidden zone. A high percentage of trash fish in the catch thus raises suspicion that the boat was poaching, though it was lucky to escape apprehension.

9. In the Malaysian economic climate, owners of capital (mainly people of Chinese descent and foreigners) are accustomed to formation of rings, cartels, and all sorts of collusive organizations. It is, therefore, likely that auctions alone could have failed to collect monopoly rents for the states from fishing.

10. Two types of fees are charged. One schedule sets fees for use of fishing equipment (First Schedule—Regulation 5). One has to pay M\$2 per annum for four bag nets, the same for gear of barrier nets, draft nets, set of hooks and traps, etc. Fishing stakes cost from M\$10 to M\$50 per gear; trawl nets, depending on the horsepower of the boat, cost up to M\$50.

Fees are also required for operating a boat. The fee varies according to the month of the year in which the license is bought and the horsepower of the vessel. Maximum charge is M\$35.

These clearly are moderate fees and in real terms have declined since inflation hit Malaysia badly in 1973-74.

11. There are eleven such cooperatives but a lesser number of trustees because several cooperatives have the same person for trustee. The trash fish is sold for about 4½ cents per kati (1.33 lb.). Given the sharing agreement between the financier and his crew, this means 2 cents per kati of trash fish to the crew.

"Fishing cooperative" is a misnomer. They are not true cooperatives because the existing membership must agree by a two-thirds majority vote to take in a new member. Also the members are not fishermen, but financiers. Fishing cooperatives seem to be clubs or trade restraining associations, strengthening the position of the financiers against the fishermen.

12. We argue later (see section v) that in the absence of the monopolistic power of wholesalers and with competition in fish marketing, fishermen's wages could have been double what they were actually paid.

13. To prevent this either the crews could be sacked or an informer system organized and the guilty crews brought before the courts.

14. The published statistics have little to offer in terms of analysis of structures in the markets. *Census of Wholesale and Retail Trades in the Urban Areas of Peninsular Malaysia, 1970* (Kuala Lumpur, Malaysia, 1974), table 2, p. 2, states that in the urban areas of peninsular Malaysia there were 456 wholesale establishments trading in fish. Clearly, this is rather a large number; not only numbers but organization of markets counts, however, and that is not well documented in published statistics.

First, the fish markets, as will be shown later, are regional—not national—and it is the smaller number of such firms in each regional market that is relevant. Second, the wholesale trade is heavily concentrated among the Chinese, who (as is well known) often enter into trade combines because they belong either to the same clan or to the same trade association.

Establishment of trustees to sell trash fish by the eleven fishing cooperatives in Pinang (see also note 11) is a clear sign of open collusion in marketing of fish. We suspect that these trade associations are also a vehicle for other more clandestine collusive arrangements (for example, setting local industry-wide conditions of employment of hired labor). We noted that some financiers are also buyers of fish.

15. See *Quarterly Commodity Statistics* 4, no. 1 (Jan/March 1973).

16. We are not very optimistic that adequate and appropriate measures will be taken. In the past, Malaysian governments reacted to lack of competition in trading by licensing. This may have helped to break the ties between various levels of trading, but it resulted in more monopoly rather than less. Substitution of private monopoly by bureaucratically enforced monopoly seems to solve nothing. The monopolistic exploitation power is then strengthened, not weakened.

17. We noted that in Pinang many financiers are tied to particular wholesalers, or are themselves fish buyers. To unravel the mystery of who in the Chinese community owns what is *per se* a difficult task, and as it was not our objective we left it to future researchers of the Malaysian economy.

18. At present fishermen in search of credit may depend only on meager savings of close relatives and on advance wages from financiers organizing fishing trips. The latter source decreases further any market power fishermen may have retained.

Thus, the only source of organized credit could be the (state) Agricultural Bank which distributes its credit through cooperatives. Unfortunately, the cooperative movement in rural Malaysia is very weak; whatever exists is very bureaucratic, and fishermen do not belong to existing fishermen cooperatives.

19. Thus the development of fishing activities may be assigned to the already existing agency called PERNAS.

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